

passing from one of the introduction modes ((i) (ii)) to the other as a function of the advance of the combustion front inside the reactor.

5. (Amended) Process according to Claim 1, characterized in that the preheating of said porous medium is carried out using electrical elements situated at the periphery of the reactor.

6. (Amended) Process according to Claim 1, characterized in that the preheating of said porous medium is carried out by circulating therein, prior to said introduction of the reaction mixture, a preheating gas mixture comprising a hydrocarbon and oxygen in proportions which make possible total combustion.

7. (Amended) Process according to Claim 2, characterized in that said reaction gas mixture successively encounters said first inert porous material, said catalytic bed and said second inert porous material within a reactor exhibiting the following arrangement:

- a first cylinder comprising, at its lower end, means for introducing said reaction gas mixture;

- a second cylinder of smaller diameter than said first cylinder, inserted into said first cylinder so that its upper end is situated at a distance from the upper end of the first cylinder and so that its lower end, via which the mixture comprising the hydrogen and the CO is collected, emerges outside the first cylinder;

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- said first inert porous material filling at least a portion of the height of the annular space defined by the internal wall of the first cylinder and the external wall of the second cylinder;

- said catalytic bed filling the upper part of the first cylinder and/or that of the second cylinder;

Sub 2
- said second inert porous material filling the lower part of the second cylinder.

Please add the following new Claims 10-17:

Sub 1
--10. Process according to Claim 3, characterized in that said reaction gas mixture successively encounters said first inert porous material, said catalytic bed and said second inert porous material within a vertical cylindrical reactor, the ends of which are filled with one or other of said inert porous materials and the central part of which is filled with said catalytic bed, and in that the reactor is fed in alternate mode in the following way:

i) the reaction gas mixture is introduced in the lower part of the reactor and the mixture comprising the hydrogen and the CO is collected at the upper part of the reactor, or

ii) the reaction gas mixture is introduced in the upper part of the reactor and the mixture comprising the hydrogen and the CO is collected at the lower part of the reactor,

Sub 3

passing from one of the introduction modes ((i) (ii)) to the other as a function of the advance of the combustion front inside the reactor.

11. Process according to Claim 2, characterized in that the preheating of said porous medium is carried out using electrical elements situated at the periphery of the reactor.

12. Process according to Claim 3, characterized in that the preheating of said porous medium is carried out using electrical elements situated at the periphery of the reactor.

13. Process according to Claim 2, characterized in that the preheating of said porous medium is carried out by circulating therein, prior to said introduction of the reaction mixture, a preheating gas mixture comprising a hydrocarbon and oxygen in proportions which make possible total combustion.

14. Process according to Claim 3, characterized in that the preheating of said porous medium is carried out by circulating therein, prior to said introduction of the reaction mixture, a preheating gas mixture comprising a hydrocarbon and oxygen in proportions which make possible total combustion.

15. Process according to Claim 3, characterized in that said reaction gas mixture successively encounters said first inert porous material, said catalytic bed and said second inert porous material within a reactor exhibiting the following arrangement:

- a first cylinder comprising, at its lower end, means for introducing said reaction gas mixture;
- a second cylinder of smaller diameter than said first cylinder, inserted into said first cylinder so that its upper end is situated at a distance from the upper end of the first cylinder and so that its lower end, via which the mixture comprising the hydrogen and the CO is collected, emerges outside the first cylinder;
- said first inert porous material filling at least a portion of the height of the annular space defined by the internal wall of the first cylinder and the external wall of the second cylinder;
- said catalytic bed filling the upper part of the first cylinder and/or that of the second cylinder;
- said second inert porous material filling the lower part of the second cylinder.

16. Process according to Claim 15, characterized in that the preheating of said porous medium is carried out using electrical elements situated at the periphery of the reactor.

17. Process according to Claim 15, characterized in that the preheating of said porous medium is carried out by circulating therein, prior to said introduction of the reaction mixture, a preheating gas mixture comprising a hydrocarbon and oxygen in proportions which make possible total combustion.--

REMARKS

Entry of the foregoing and favorable consideration of the subject application are respectfully requested. The foregoing amendments have been made in order to remove multiple dependencies from the claims, and to add appropriate headings into the specification consistent with U.S. practice.

If there are any questions concerning this paper of the application in general, the Examiner is invited to telephone the undersigned at his or her earliest convenience.

Respectfully submitted,

BURNS, DOANE, SWECKER & MATHIS, L.L.P.

By: _____

E. Joseph Gess
Registration No. 28,510

P.O. Box 1404
Alexandria, Virginia 22313-1404
(703) 836-6620

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